

VIRGINIA ELECTRIC AND POWER COMPANY
RICHMOND, VIRGINIA 23261

April 9, 1992

U. S. Nuclear Regulatory Commission
Attention: Document Control Desk
Washington, D. C. 20555

Serial No. 92-186
NL&P/TAH/R17
Docket Nos. 50-338
50-339
License Nos. NPF-4
NPF-7

Gentlemen:

VIRGINIA ELECTRIC AND POWER COMPANY
NORTH ANNA POWER STATION UNITS 1 AND 2
INSPECTION REPORT NOS. 50-338/92-03 AND 50-339/92-03
RESPONSES TO THE NOTICES OF VIOLATION

We have reviewed your letter of March 10, 1992, which referred to the inspection conducted at North Anna between January 12, 1992 and February 15, 1992, as reported in Inspection Report Nos. 50-338/92-03 and 50-339/92-03. Our responses to the Notices of Violation are attached.

In your letter that transmitted the Notices of Violation, you expressed concern with Violation A because the extensive corrective actions previously taken to address recent trends of operator errors and equipment mispositions should have prevented the enclosed violations. We agree with your concern and are implementing additional actions to enhance operator attention to detail.

These actions include assigning, on an interim basis, a Peer Coach to monitor shift operating practices and coach less experienced operators. The Peer Coach also publishes "Operations Alerts" to help operations personnel perform work activities correctly. In addition, management has met with Operations Department personnel to discuss the recent adverse trend in personnel errors and a memorandum was distributed to underscore management's expectations. Finally, the Quality Assurance department has been witnessing the performance of safety related independent verification activities. To date over 38,000 observations have been conducted.

The purpose of the Quality Assurance involvement was to enhance the independent verification program and raise the awareness of operations personnel to the necessity of a consistently high standard of performance. This effort has also generated an extensive data base on operator personnel performance which is being evaluated under the Human Performance Enhancement System (HPES). An independent third party is assisting us in this evaluation.

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You also expressed concern with Violation B, which involved the untimely corrective action taken in response to a vendor alert. The Inspection Report noted weaknesses in our engineering management controls, an initial inadequate engineering evaluation, apparent lack of sensitivity for potentially safety significant issues, the oversight of our industry operating experience review program, and the effectiveness in promptly evaluating operability concerns commensurate with safety significance. Although we agree with the cited violation, we feel that some of the above stated concerns were in fact resultant symptoms of the basic underlying causes of Violation B.

Your concerns resulted from a change made in the schedule to delay initiating the evaluation of a vendor identified issue with only minimal engineering management review. Also, a weakness was evident in the oversight of our Industry Operating Experience Review Program, the consequence of which was the failure to identify the significance of that delay. However, in general, we believe that the implementation of the Engineering Potential Problem Reporting program has been effective in evaluating potential design issues.

To prevent recurrence, we have strengthened our review processes and proposed procedure changes to better track the progress and completion of industry operating event review actions and schedules. This includes timely assignment of actions and follow-ups for potential safety significant issues to ensure that Engineering Potential Problem Reports and/or Station Deviation Reports are initiated. It also includes management status reporting with emphasis on overdue items. In addition, the Corporate Nuclear Safety group and the Station Nuclear Safety group will continue to coordinate industry event review action items and priorities to ensure the most effective reviews are conducted. Finally, the Industry Operating Experience Review program is currently being independently evaluated by the Quality Assurance Department.

These changes, which are discussed in greater detail in the attachment, provide the necessary corrective actions to ensure an adequate review, prioritization and scheduling of safety significant concerns.

If you have any further questions, please contact us.

Very truly yours,



for W. L. Stewart
Senior Vice President - Nuclear

Attachment

cc. U. S. Nuclear Regulatory Commission
101 Marietta Street, N.W.
Suite 2900
Atlanta, Georgia 30323

Mr. M. S. Lasser
NRC Senior Resident Inspector
North Anna Power Station

RESPONSE TO THE NOTICE OF VIOLATION
REPORTED DURING THE NRC INSPECTION CONDUCTED
BETWEEN JANUARY 12, 1992, AND FEBRUARY 15, 1992
INSPECTION REPORT NOS. 50-338/92-03 AND 50-339/92-03

NRC COMMENT

During the Nuclear Regulatory Commission (NRC) inspection conducted on January 12 - February, 15, 1992, violations of NRC requirements were identified. In accordance with the "General Statement of Policy and Procedure for NRC Enforcement Actions," 10 CFR Part 2, Appendix C, 1991, the violations are listed below:

- A. Technical Specification 6.8.1.a requires written procedures to be established, implemented and maintained covering activities referenced in Appendix A of Regulatory Guide 1.33, Revision 2, February 1978, to include operating procedures.

Operating Procedures 1-OP-26.5, Revision 6, 120 Volt Vital Bus Distribution, Step 5.6, provides instructions for transferring vital bus I-IV from inverter I-IV to a regulating transformer. Operating Procedure 1-OP-6.5A, Revision 11, 1I and 1J Emergency Diesel Generator Post-Operational Check, Step 5.4.4.e requires the EDG exhaust muffler bypass valve to be opened and locked.

Contrary to the above, operating procedures were not implemented properly, that:

1. On January 21, 1992, while performing 1-OP-26.5, an auxiliary operator assigned to transfer bus I-IV to its regulating transformer, incorrectly transferred bus I-II which resulted in de-energizing the I-II 120 volt AC vital bus.
2. On January 25, 1992, while performing 1-OP-6.5A to return the 1J EDG to service, an auxiliary operator failed to open and lock the EDG exhaust muffler bypass valve.

This is a Severity Level IV Violation applicable to Unit 1 only (Supplement I).

- B. 10 CFR 50, Appendix B, Criterion XVI as implemented by section 17.2.16 of Operational Quality Assurance Program Topical Report (VEP 1-5A), requires in part that measures be established to assure that conditions adverse to quality are promptly identified and corrected.

Contrary to the above, established measures including the Deviation Report and Potential Problem Report systems failed to assure prompt and adequate corrective action of a potential RHR system overpressure vulnerability. Substantial action to correct the adverse condition was not initiated until January 22, 1992, although the licensee had been notified of the concern on February 21, 1990.

This is a Severity Level IV Violation (Supplement I).

RESPONSE TO VIOLATION A

1. ADMISSION OR DENIAL OF THE ALLEGED VIOLATION

The violation is correct as stated.

2 REASON FOR THE VIOLATION

The reason for the violation was operator error caused by inattention to detail. In the first example, an operator did not adequately self check when switching vital bus I-IV to its transformer. The operator inadvertently switched vital bus I-II to a de-energized SOLA transformer. In the second example, the operator initialled the procedure step indicating that the EDG exhaust muffler bypass valve was open and locked, but then failed to actually perform the required action.

3. CORRECTIVE STEPS WHICH HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

As a result of the first example of the Notice of Violation, the following actions have been initiated:

- Operating Procedure, 1-OP-26.5, was revised to require simultaneous verification due to the component's sensitivity.
- A Human Performance Enhancement System (HPES) evaluation was performed on the event. Recommendations as a result of the HPES evaluation include painting the vital bus transfer switch cabinet covers and enhancing of the caution signs on the transfer switch cabinets.
- The operator involved in the event was disciplined appropriately.

As a result of the second example of the Notice of Violation, the following actions have been initiated:

- The section of the chain on the EDG exhaust muffler bypass valve operators where they lock to the stanchion have been painted and labels have been installed in the EDG room indicating that the muffler bypass is open when the padlock is secured through the red chain links.
- The governing procedure for the evolution, 1-OP-6.5A, has been revised to require independent verification following valve repositioning.
- The operator involved in the event was disciplined appropriately.

In addition to the above corrective actions associated with the specific events, the following actions are being taken to reverse the trend of Operations Department personnel errors:

- A top performing licensed reactor operator has been taken off shift and temporarily assigned as a "Peer Coach". This individual monitors watch-standing practices and coaches less experienced operators. This individual also publishes Operations Alerts to help operations personnel perform work activities correctly.
- Management has met with the Operations Department to discuss the adverse trend of personnel errors. In addition, a memorandum was sent to Operations Department personnel explaining the adverse trend and management's expectations.
- The Quality Assurance Department has been witnessing the performance of safety related independent verification activities. This enhances the independent verification program and raises the awareness of operations personnel to the necessity of a consistently high standard of performance. To date over 38,000 observations have been conducted. Quality Assurance will continue to witness the performance of selected safety related independent verification activities until station management is satisfied that operational performance will consistently meet the high standards that are expected.
- The accumulated data base of observations is being consolidated and reviewed under our HPES Program for root cause and areas for additional management attention.

4. CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

No further corrective actions are required.

5. THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance has been achieved.

RESPONSE TO VIOLATION B

1. ADMISSION OR DENIAL OF THE ALLEGED VIOLATION

The violation is correct as stated except that some of the concerns stated in the inspection report were in fact resultant symptoms of the basic underlying causes of the violation. These resulted from a change made in the schedule to delay the evaluation of the vendor issue with only minimal engineering management review. Also, a weakness was evident in the oversight of our Industry Operating Experience Review Program, the consequence of which was the failure to identify the significance of that delay. However, the implementation of the Engineering Potential Problem Reporting program effectively evaluated the potential design issues.

2. REASON FOR THE VIOLATION

The violation was caused by a change in the schedule to delay engineering evaluation activities for a condition reported as potentially causing an adverse Residual Heat Removal (RHR) System condition without full consideration for safety and operability concerns, and the Industry Operating Experience Review Program's failure to identify the significance of that delay.

The basis for that change was that the Westinghouse correspondence stated that Westinghouse believed that the issue did not impose a significant hazard to plant safety because the operating time that the RHR System is at temperature conditions at which maximum relief valve backpressure occurs during plant cooldown is relatively short. Therefore, the probability of an overpressure event that may impair the operation of the RHR relief valve is relatively low. Also, conservatism had been built into the RHR System piping and component designs which allows the system to withstand pressure increases to greater than 110 percent of design pressure. Westinghouse concluded that the integrity of the RHR System should not be challenged.

The initial screening and assignment of this issue was performed in accordance with our Industry Operating Experience Review Program. However, oversight by our Industry Operating Experience Review Program was inadequate in that it did not determine that the schedule deferral was inconsistent with the potential safety issues.

3. CORRECTIVE STEPS WHICH HAVE BEEN TAKEN AND THE RESULTS ACHIEVED

The processes governing the evaluation of vendor and industry experience information have been strengthened to ensure proper prioritization and tracking.

The initial evaluation of a vendor information notice or an industry event report is now performed by Corporate Nuclear Safety (CNS) working with Station Nuclear Safety (SNS) and/or other corporate departments. CNS makes an initial assessment of the safety significance and the need for an operability determination.

Based on this initial assessment, action will be initiated with the affected station(s) and/or other corporate departments to generate a Station Deviation Report or an Engineering Potential Problem Report, as appropriate. CNS will then establish an action plan for a detailed evaluation based on potential operability and safety significance. Once action items have been assigned and schedules established, any extensions to the schedules or delays in the completion of these action items will be reviewed by CNS and reported to management.

Also, CNS now serves as the focal point for the screening of industry experience documents. Therefore, parallel reviews being conducted by Corporate Engineering and Station Engineering, as was done in this case, will be properly coordinated.

In addition, the implementation followup program has been strengthened through the use of management status reporting. These reports are used to request action for completing assignments for which the required due dates have not been met and for providing overdue and backlog status to management.

A comprehensive technical analysis of the RHR System overpressurization issue has been performed. The results of this analysis confirms that the North Anna RHR System and relief valves meet the original design basis and are, in fact, not vulnerable to the overpressure concerns raised in the original Westinghouse correspondence.

4. CORRECTIVE STEPS WHICH WILL BE TAKEN TO AVOID FURTHER VIOLATIONS

CNS procedures will be upgraded to fully incorporate the enhanced program controls by August 31, 1992.

Quality Assurance, as part of a Corrective Action Audit, is evaluating the Industry Operating Experience Program with special emphasis on program timeliness and oversight.

Engineering management will issue a technical bulletin to heighten the awareness of engineering personnel to the importance of operability and safety concerns when considering changes to corrective actions or schedules for completion of assignments.

5. THE DATE WHEN FULL COMPLIANCE WILL BE ACHIEVED

Full compliance has been achieved.